

PRIVATE

ON | GATE

magazine.

**SEPTEMBER/OCTOBER
1985**

ISSUE 2
An I.E.U.G publication



MIKE THE PUBLIC SHIRLEY ENTERPRISE

Feature
INTERVIEW

**PCW
SPECIAL**

Latest Software
reviews.

Readers
views.

I.E.U.Gs
diary



THIS

SPACE

Available to the trade

**CONTACT THE I.E.U.G.
FOR DETAILS AND RATES**

Editorial

I'm not really in the right sort of mood to write a witty and well constructed Editorial this issue, having worked three days solidly trying to get it to you before the new year, but someones got to write it and I suppose it is my job.

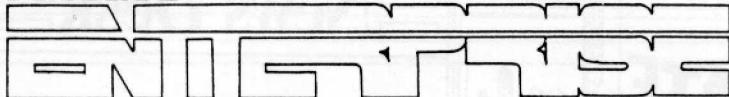
It just doesn't seem two months since our last communication, so much has happened, (Hold on a minute isn't it three months) and we've all been extremely busy trying to keep up with the standards and substance of issue one, which isn't easy when contributions from you currently stand at below 1%. Were not asking a great deal, short articles, programming tips, programs, even short stories if you like. (the first article written by a member will appear in issue three on advanced use of the Nick chip.)

Remember this is your magazine, not just ours. Although we enjoy writing it, we would like a couple of evenings off each year. Get the picture. O.K I can sit back and wait for the flood.

Several events caused the delay of this publication; the main delay, as many of you who attended will know, was the PCW Show at Olympia in London. At about two weeks notice, the group were given a corner of the impressive Enterprise stand in order to flog magazines, press gang people into joining and, most importantly, to inhale large quantities of helium gas. All in all it was a very fruitful experience for us and the user group which we share with you on the first few pages of this issue. I hope you will agree that it was worth waiting until after the show, so as to include the latest software and hardware developments, had we not held back, you wouldn't have heard about it for at least another two months. (It could be even longer if we don't get any contributions !)

Mark Lissak

PRIVATE



Sept/Oct
magazine. 1985

CONTENTS...

ISSUE 2

NEWS DESK With a special report from the Personal Computer World Show at Olympia and new software from overseas.

4

IEUGS DIARY A light-hearted view of our experiences of the PCW show.

6

PRIVATE CORRESPONDENCE More of you views, problems and response to our first issue.

7

INTERVIEW Mark Lissak and Tim Box talk to Mike Shirley about the company and computer industry in general.

9

SOFTWARE UPDATE A clutch of games and a language reviewed this issue.

11

PROGRAMMING First of a two part series: Escape sequences & control Codes in text and graphics handling.

14

OUTSIDE CONNECTIONS monitor conversions from digital to linear.

18

HOME PRODUCE Stay up all night typing in this graphics utility.

20

USER GROUP ACTIVITIES I.E.U.G. Join the Association of Computer Clubs

23

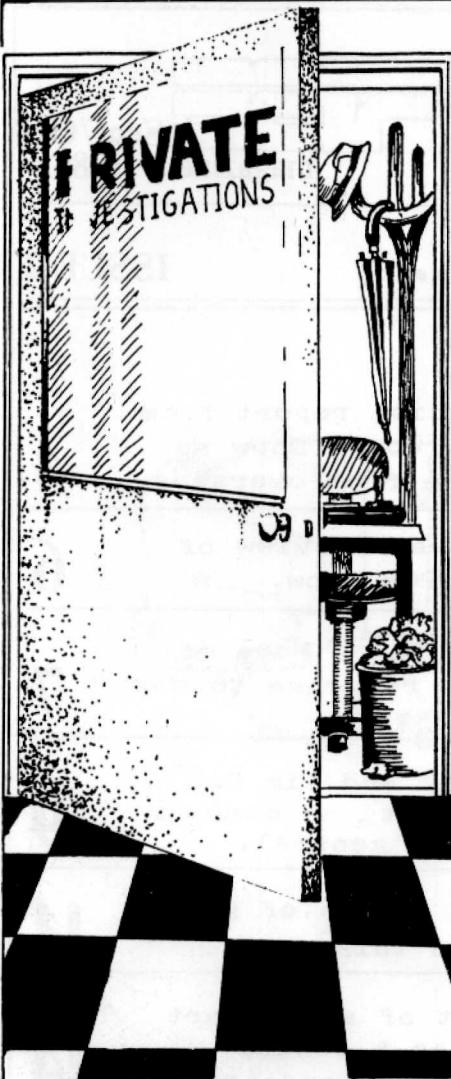
SOFTBACKS Our first book review-Super Programmer from Sigma.

19

THE INDEPENDENT ENTERPRISE USER GROUP

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News Desk

The 8th Personal Computer World Show

The news team left the Enterprise stand at the Personal Computer World Show at Olympia in a rather dazed state after viewing the launch of the Enterprise disk controller EXDOS, the Enterprise television monitor and pre-release versions of about 18 new programs!

It was hoped that the mouse and Speakeasy (speech synthesis unit) would also be launched at the show but due to various problems this failed to happen (in fact, a prototype version of the mouse appeared on the last day but was too late to make an impact).

The disk controller provides a fast and flexible interface to any Shugart 410 standard disk drive. It will drive up to four 3.5" or 5.25" drives and any combination of single or double sided, 40 or 80 track disks. It is compatible with MS-DOS file formats which allows the reading of disks from many popular micros including the IBM-PC and Apricot. Also included in the package will be the IS-DOS operating system (available on disk from Enterprise free after you have purchased EXDOS and returned a form to them stating which type of disk drive you own) which gives the option of compatibility with CP/M 80 programs. A full review of EXDOS will appear as soon as Enterprise will let us get our hands on one!

The Enterprise Television Monitor is in fact a high quality 14" television with in-built standard resolution monitor circuitry. This replaces the high resolution monitor on the Enterprise catalogue which was dropped after development problems. The glossy handout on the monitor states that it is able to show off all 256 colours - we feel that this is exaggerating a little, but overall it is perfectly adequate for most applications. One thing we noticed was that there appeared to be no straightforward way to get stereo sound output to a hi-fi when using the Monitor, as there is no stereo output facility.

The prototype mouse we saw was nothing to shout about, looking pretty makeshift - however a chat with Aztec Software revealed that the final version will be much better. The software included promises to be of excellent quality with some impressive features, such as an icon-based menu, pull-down pages and airbrush emulation. It will operate in all graphics modes. We await the release with bated breath....

Of the pre-release games on show, the most impressive by far was the conversion of "Sorcery". For those who have seen the Amstrad version of this game, the graphics were identical but overall the game ran faster with less flicker. For those unlucky enough not

New manufacturing deal

From July 1st onwards the manufacture and production of the Enterprise 64 and 128 computers will be carried out by GRI Ltd of Perth, Scotland. Tony Twine, managing director of GRI said: "The Enterprise deal is a great boost. GRI were able to offer a high quality production facility at a very competitive price, and Enterprise were able to demonstrate the two crucial criteria for success in today's home computer market - an excellent saleable product and the soundest possible financial backing."

News Desk

to have seen this game, it is an animated adventure in which you play the part of a minor wizard endeavouring to free six imprisoned sorcerers. This is done by exploring a multitude of screens, collecting and manipulating objects in order to dispose of nasties and open locked doors.

Other games on show which impressed us were "Devil's Lair" (a well-produced platform game from Loricels of Paris, featuring fast and smooth sprites and ingenious traps), "Lands of Havoc" (a fast-action maze game/animated adventure from Microdeal) and most of the Level 9 adventure games (all of which will be reviewed over the next two issues).

Not so impressive were Spectrum conversions of "Raid Over Moscow" and "Beach Head". They are both 'Spectrum dumps' (straight copies of Spectrum games which appear exactly the same as if they were running on a Spectrum), Beach Head being the better of the two - pity about the uninspired graphics.

Of the utilities on display, "Machine Code for Beginners" looked ideal for the novice trying to get a grasp of the fundamental concepts. Also worthy of attention was the "Lorigraph" drawing package (another offering from Paris), which operated in all graphics modes and featured full screen save/load facilities. Another utility of note was the Sprite Handler, a Hungarian program featuring a sprite editor together with frame advance, full animation and drawing package.

NB. All opinions expressed in these software previews are initial impressions we had of unfinished versions of the programs mentioned. Full reviews will follow upon the release of the finished items.

Enterprise goes German

The 13th of August saw the creation of a new company - Enterprise Computers GmbH. The new company was created as a result of an arrangement between Enterprise and Hegener & Glaser AG of Munich, and will market and distribute the Enterprise range of computers, peripherals and software in Germany, Austria and Switzerland. Enterprise hope to capture 5% of the German home computer market (about 35,000 machines) by Christmas.

Zappo zap off

"Zappo", the distribution company, has decided to terminate its dealings with Enterprise. Mike Shirley, Enterprise's commercial director, said of Zappo's decision: "There was no acrimony of any kind between our two firms and we wish Zappo well". He added that he felt that agreements reached with Terry Blood Distributions and Spectrum meant that there was overlapping with Zappo dealers, and that this was the main reason for Zappo's decision.

Increased software distribution

Hot on the heels of the bad news about Zappo (see above) came some exceptionally good news as Enterprise announced a tie-up with Microdealer UK and The Software Trading Company, two of the UK's largest software distributors. They will distribute the complete range of Enterprise software and together account for over 6,500 outlets. The news means that four of the UK's most important distributors now handle Enterprise software.

Six from Level Nine

Avon based adventure specialists, Level Nine have been busy converting the vast majority of their existing titles for the Enterprise. They include Lords of Time, Snowball, Return to Eden, Adventure Quest, Emerald Isle, Dungeon Adventure, costing from between £6.95 and £9.95. These titles can be purchased direct from LEVEL 9 COMPUTING P.O. Box 39, Weston-Super-Mare, Avon BS24 9UR

Ahead of time

We have received a number of press releases of dubious validity concerning forthcoming software. "Available in two weeks time Morden's Quest by Abersoft" reads a statement dated July 12th. Well, we're still waiting... Other programs also mentioned but yet to be released include "Devils Lair" and "Lorigraph". Enterprise are going to have to start getting their dates right if they want to ammend their reputation in this area.

I.E.U.G makes news

Private Enterprise has itself been appearing in the news pages of other magazines with glowing reports.

....Although we don't often recommend rival magazines we have to admit that this is a very good first issue....In all its a very brave and well put together, first effort and can be recommended to our Enterprise owning readers.

Home Computing weekly

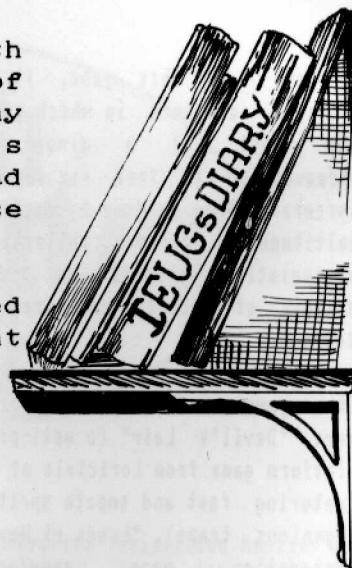
.....If the next two are anything like the first, it must surely be a must for Enterprise owners.

Personal Computer World.

IEUGs PCW Diary

It was a muggy, overcast morning of Wednesday 4th September. Suddenly and inexplicably, members of IEUG found themselves transported into a tiny corner of the Enterprise stand in Olympia's National Hall - at very short notice Enterprise had allowed us onto their stand in order to publicise the User Group.

To save you the morbid details of all that occurred during those five feverish days, we present selected items from IEUG's diary:



First Trade Day. No sign of the mouse or the Speakeasy. More Enterprise software than we'd ever seen together in one place. No sign of the "Database" TV people who said they'd come onto the stand to make amends for the bodge review they gave the machine a few months ago. Spent much of the day watching the exotic dancers on the "System 3" stand. Fell in love with disk interface. Sick of the "Commodore Rap".



Second Trade Day. Surprised by the sheer number of bona fide twelve-year-old managing directors here today wanting a balloon and an Enterprise hat. Spent much time (in the Exhibitors' Bar) talking to software houses and programmers interested in writing for the Enterprise. Saw the world premiere of "Sorcery" for the Enterprise. Spent rest of the day demonstrating "Sorcery" to anybody we could find. Rumour has it that the mouse and Speakeasy are arriving tomorrow. Considering drastic action to stop the excruciating "Commodore Rap".



First public day. Inundated with "Enterprise Club" members claiming a free copy of the magazine. Spent much of the day explaining to violent and confused "Enterprise Club" members the difference between the Club and the User Group. Rumour has it that the mouse and Speakeasy are arriving tomorrow. Used some of the ill-gotten gains to join the Association of Computer Clubs (wow!). Considering the use of explosives to dispense with the interminable "Commodore Rap".



Second public day. Static electricity build-up on Enterprise stand resulting in many of us getting severely zapped. Saw "Lands of Havoc" running on a Sinclair QL slower than on the Enterprise and selling for twice the price! Tim Box's digitised picture demonstration is attracting crowds from the other side of the hall. Mouse and Speakeasy expected tomorrow. Attempt to blow up "Commodore Rap" demonstration aborted due to faulty detonator.



Final (public) day. Mouse arrives but Speakeasy and Basic Compiler lost in transit by delivery firm. Self control stretched to breaking point as we restrained ourselves from lynching an avid Commodore fan wandering around the stand telling people the demos running on the Enterprises were actually video recordings. Thermonuclear warhead ordered to terminate "Commodore Rap" permanently mislaid in same van as Speakeasy and Basic Compiler.



The day after. Helped dismantle Enterprise stand which included drinking all leftover cans of Soda Water (yuk). Spent much of the day burping uncontrollably as a result of drinking too much soda water. After dismantling the stand we had to stagger three-quarters of the way across London clutching two hundred copies of Issue One and thousands of IEUG application forms.

Is anybody out there?

I've seen more response from an Elm tree with Dutch Elm disease, I can't believe you've all lost my address, and I can't believe you've got nothing to say. Wasn't issue 1 sufficiently amazingly brilliant for you to dash to your writing pad, stamps and envelopes? You all better have a very good excuse, or there'll be trouble in issue three. Maybe you've all caught Dutch Elm disease? Anyway I wan't to see you all in my office tomorrow morning with your sick note without fail !!

Seriously though, We can't go on like this, were all getting a little apathetic down at this end, and sooner or latter were going to get very pissed off, and then the magazine will begin to suffer.

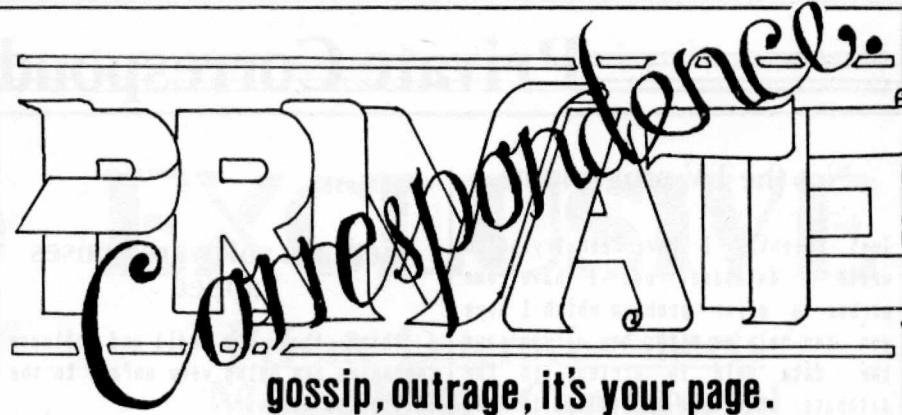
For those of you who have been in contact with us, my thanks and keep it up, maybe we will see some articles from you soon? I think I'll just go and drown my sorrows in a game of Eddie the Exterminator!

Enterprise for Private Enterprise.

Congratulations on the publication of the first issue of 'PRIVATE ENTERPRISE' - we were all most impressed with both the quality and content. There are points arising from some of the features that might be of interest to your readers.

The 'STOP PRESS' section mentioned our disk controller- this will be CP/M compatible and will read MS/DOS (and therefore MSX-DOS) files. It will not however run MS/DOS, this is a sixteen bit operating system.

The Enterprise EP-80+ printer has a 2K buffer as standard, and this can be used for user defined 'downloaded' characters. This is an improvement on the specification for the Mannesmann Tally MT-80+ printer and demonstrates



Enterprises 'added value' policy for peripherals.

The choice of edge connectors for the output ports has been criticised in several areas- they do, however meet the criteria for both cost and reliability (i.e. not just 'cheap'), and enable more connections to a given board area. The Enterprise CONTROL ports have ten connections (a 5x3 matrix, +5 and OV) to allow the possible connection of a 15 key extension keyboard- this would have been impossible using the standard 9 pin 'D' connector normally used for joysticks.

We are all eagerly awaiting the next issue of 'PRIVATE ENTERPRISE' - good luck.

Steve Groves
(Head of Technical Support,
Enterprise Computers)

ED. Re-prints of issue one contained an amended version of the 'Stop press' item.

More praise

Private Enterprise issue one was thoroughly superb. Thankyou for sending out such a marvellous publication. Well done (keep it up)

Howard Ingleby
Leeds

ED. You've been on this page twice now, a real superstar eh! Any chance of an autograph. See if you can make it three in a row.

...and more

Thanks for the wonderful first issue of Private Enterprise, the feature about edge connections has finally managed to satisfy my curiosity. At the moment I am trying to connect my Enterprise to a laserjet printer, although I don't know whether it will work.

Meanwhile I have some questions to ask to see if you can answer them for me.

(1) Will the memory upgrade shortly to be made available for the 64 allow the increase in speed that occurs with the 128?

(2) Does anyone know when the technical manual is going to come out? I am rather stuck as I want more details on Exos, machine code, etc

Finally, If there are any other users in Scotland who would like to form a local user group, then do not hesitate to contact me.

David Girling
Glasgow.

ED. The upgrade you speak of is being organised currently and should be available 'shortly', and as this includes the rom upgrade there will be absolutely no difference between your machine and a 128, including speed.

I'm afraid I cannot tell you when the technical manual is to be released as I don't know myself. If you do want any technical information I suggest you contact Enterprise or us.

Private Correspondence

Not the T.V. programme.

Just recently I have been trying to write a database, but I have come across a major problem which I hope you can help me with, how do you save the data held in strings in the database onto tape and reload it into the computers memory.

Alan Gundie
Leicester.

DWR. In order to save a string to tape, all that is necessary is to open an output tape channel and print your data to that channel; e.g.

```
OPEN #1:"TAPE:DATA" ACCESS OUTPUT
PRINT #1:DATA$
```

The first line opens a tape channel and the second outputs data, in the variable DATA\$, to that channel.

Once you have finished saving all your data in this way, you will need to close the channel using the CLOSE command.

When you need to load the data from tape, position the tape to the point just before the data file and open an input tape channel. The data can then be accessed using the INPUT command from the tape channel; e.g.

```
OPEN #1:"TAPE:DATA"
INPUT #1:DATA$
```

Again, when you have finished loading data you should close the tape channel.

Obviously, the data will be loaded in the same order as it was saved.

The only point to beware of is that if you try to save two strings on the same line of basic; e.g.

```
PRINT #1:A$,B$
```

An error will probably occur when you try to load them; as A\$ and B\$ will have been concatenated (it is O.K. to use one line to load two, or more,

variables).

Media & software houses rapped

I think that the media and software companies are being very unfair to the Enterprise computer.

In a recent programme of Database, (ITV's computer programme on Thursday evenings) they reviewed three computers, an Enterprise, an MSX machine and a Sinclair Spectrum Plus. They first mentioned the prices of the computers, quoting the Enterprise at £250, so, I thought it must be the 128k machine, as the price of the 64 was now £180. Then after a few minutes they showed an opening screen of the Enterprise, and that said 64k machine. Also mentioned was the slow Basic of the Enterprise 64, but there was no mention that the Basic is on average 25% faster on the Enterprise 128k.

If a major broadcasting company cannot be bothered to get these important facts correct, then how can people who are thinking about buying a computer pick the best one. (In my opinion the Enterprise)

One other point of interest:- The conversion of 'A view to a Kill' by Domark for the Enterprise Computer will be launched on the 15th October 1985, but Domark are still advertising that the Enterprise version is out now.

D.G. Jones
Essex.

ED. Some very relevant points there Mr. Jones. I don't think anyone would have much sympathy for Domark even if their game does come out by this date.

Aspects of IS-BASIC

Since last issue's letter on bugs, I have received a copy of the new issue 2.1 operating system and basic. (as

fitted to the 128) It seemed fair to go through the list and see how many bugs were still present.

(1) RETRY is still not allowed in an IF statement; not really a bug-simply an omission from the manual.

(2) Printing to the last two columns of channel 102 is still stopped by the editor.

(3) There are still inaccuracies in the COS function.

(4) * is still ignored in immediate mode; again not really a bug-just a peculiarity.

(5) GOTO still causes problems if used to leave an error handler. The problem occurs if the GOTO's destination lies within a loop of some type. Even if the program has just left a loop to use an error handler, the basic does not seem to remember the fact unless RETRY or CONTINUE are used. That said, GOTO is a feature of minimal basic, and you nearly always run into problems jumping into loops

(6) The timer is still as erratic as ever.

(7) The LOOK command still can't be used directly with a text channel, but see the escape codes article in this issue.

(8) You still can't scroll all of a 255 line screen.

Since last issue, two more bugs arose. The first lies in the PRINT USING and IMAGE commands. The problem occurs if a number less than 1 is print using a format such as ff.fff. Instead of printing, say, .99 the program will print 9.9. There doesn't seem to be any way round this problem. The second occurs when the angle function is used to determine the angle between (0,0) and any point on the -x axis. If the computer is set up to work in degrees, it works perfectly until this point is reached and then it quickly converts to radius, so you get the answer 3.141...!

Dave Race
Oxford.

EXCLUSIVE

Private Enterprise meets
Mike Shirley, Commercial
Director



One of the most common, and uncomplimentary, comments made about the Enterprise is that it was the "much-delayed" computer. Michael Shirley gets more than a little peeved when he reads or hears this.

"The facts are that the Company was formed in late 1982 and although some research and development had been going on before, the intention was to launch the Enterprise to the trade and consumer outlets in May '84. There was never any suggestion of launching in '83. What we did was to make an announcement about the Company and its plans in September 1983, and this has subsequently been confused with the launch date."

What the press had been doing, said Mr Shirley, was to calculate the eventual launch date as being two years from the setting up of the Company. "We were supposed to come out in May '84", he said, "and we finally produced deliveries to the trade, albeit in small quantities, in December '84 - that's six months late." One effect of that, of course, had been that Enterprise had had to put up a stiffer fight to get into the market, because the '83-'84 market had not been as strong as that in previous years.

Now that Enterprise had been launched, how did Mr Shirley see its performance in a market place which appeared to be depressed?

"One reason for this has been the press talking the industry down - every weekend it happens in the so-called authoritative newspapers. Another reason has been the problems facing Sinclair and Acorn. A lot of the public are not going to buy their products until they see what is going to happen, and I can tell you that the retail trade feels very much the same. Until the trade really knows what Acorn and Sinclair are going to be doing for Christmas, they're delaying their own buying decisions. So you've had all this uncertainty."

In spite of this, however, Mr Shirley sees a market of between 550,000 and 600,000 units - that's all makes - over the next six months, and Enterprise would be fighting for its share of that. There had been a lot of overstocking last Christmas, which had distorted the picture in the early months of this year, but he was sure the industry was becoming more mature, and the market would settle down.

But what about adverse press for Enterprise itself? Mr Shirley said

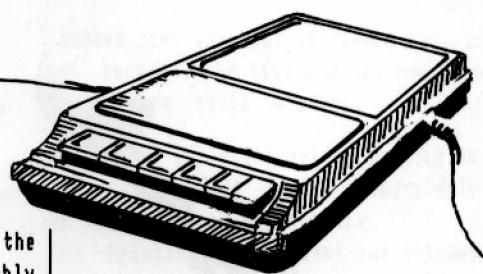
there had really only been one bad 'notice' - on a TV programme.

"You can't blame the press. They are writing for the UK consumer and the UK retailer, and it's right that they should comment on our activities. I actually think we have had a fair run from the press."

Commenting on the fact that the MSX had had a favourable press, he said he thought this had happened because the writers had thought the MSX would sell. "The writers in the national press are not so specialist that you can expect an in-depth and rational view of the market place. They miscalculated, and one reason they did so was that the customer is actually buying more and more advanced products each year, and part of the reason for this is that advances in technology make it possible to give the public 1985 products at 1984 prices. That's where MSX went wrong. It was old-fashioned 1970's technology, and the consumer wants to move on to more advanced computers. The price was too high, and the public saw that it wasn't value for money."

So if the MSX sold on its image - even if the image was wrong - what image did he think Enterprise now had, and

Interview



what should it have?

"The image which Enterprise is getting, and will get more in the future, is that of being the BMW of the home computer business. Now the only way you can sustain an image like that is by producing genuinely advanced, genuinely high-tech products which are reliable compared with other products."

Were looks important?

"Looks are tremendously important, but it is not just looks; it's the total marketing concept of having advanced, sophisticated products. I can sit down today with anyone and say 'Let's forget all the salesmanship. Let's measure technical specification for technical specification.', and people very rapidly see that the Enterprise is a very advanced product.

"We at Enterprise feel that is the way the market place is going, and our first development must be to secure a useful brand share so that the major retailers have to stock us. But we must maintain our high level of sophistication.

"We're never going to be in the bargain basement. You don't have to be - provided the sales features you are offering, are offered at a price the consumer feels is value for money."

Enterprise, of course, hasn't yet made its appearance in the Dixons and Lasky's in our High Streets. But Mr Shirley says it is only a matter of time - until later this year - before Enterprise gets what, in marketing jargon, is called 'multiple account exposure'. The delay here, he said, was not unconnected with the Acorn and Sinclair uncertainties. Leaving these two aside, however, what about the Commodore? Wasn't that going to be stiff competition in the 128k market?

"We think that since the product is more expensive than ours -- and again I would argue for our technical

specification against theirs -- the launch of the Commodore has probably helped Enterprise for the simple reason that they are a large company, and the very fact that they have launched a 128 in the UK market is a further endorsement of what Enterprise has been saying for the last few months -- that it's going to be a 128k - and an Enterprise 128k - Christmas

"The image which Enterprise is getting is being the 'BMW' of the home computer business"

this year."

Accepting the qualities of the machine, there is still one aspect of the Enterprise that appears to anger most users: there's not a lot of software. Why? And what's being done about it?

"I admit that in the past, Enterprise has been a bit slow in producing software. We're trying to remedy the situation. I hope that your readers appreciate that the software industry is going through the same problems as the hardware manufacturers. People are going bust every week, and that means that even when you have software houses under contract, if their programmer goes sick, or leaves, or the company folds, you get held up, and this has tended to happen to many people this year.

"The only way we can circumnavigate the problem is by going to better software houses. But even then you still have problems from time to time. The software industry has a stunning ability to be late with everything!"

"So while we do accept some of the responsibility for the delay in software titles for Enterprise, it's more the malaise of the total industry, rather than a specific Enterprise problem."

Mr Shirley expects 65 to 70 titles to be out by mid October, and is confident the change of policy of going for better software houses to commission Enterprise - originated software, and of also contracting third-party software will help to achieve this target.

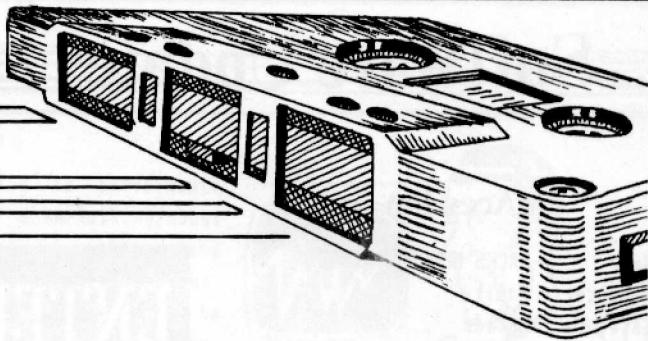
Before we left, Mr Shirley reminded us that the Enterprise Disc Controller will be unveiled at the PCW Show. Let's hope so! He also promised that between now and Christmas we would see Enterprise having an increasingly higher visibility in the shops and in advertising.

And what of other, perhaps more distant, future plans. Mr Shirley, perhaps remembering the past, was cautious about revealing too much detail.

"Let's say this. We have a super machine because we have our own research and development team, and we are always working on new products. We are in a fast-moving, high-tech market place and you have to produce new products on a regular basis. That means that you can expect from Enterprise that there is going to be a vigorous, ongoing new product development programme. And that means that people should invest in Enterprise products, because Enterprise is going to be around for a very long time indeed!"

Software

Update



KEY TO RATINGS:

ARCADE and ANIMATED ADVENTURES

GAME CONTENT	- Variety of actions / screens
PLAYABILITY	- Ease of use, addictive quality
GRAPHICS	- Quality and use of graphics related to machine
SOUND	- Use of stereo and tune / noise originality.
VALUE FOR MONEY	- Overall impression when compared with price.

ADVENTURES

GAME CONTENT	- Design of plot / background. Puzzle ingenuity.
PRESENTATION	- Atmosphere, graphics (if any), text / screen layout.
INTERACTION	- Parser quality, editing facilities
VALUE FOR MONEY	- Overall impression when compared with price.

PERCENTAGES

0 - 25 - Yuk, Bleah !
26- 50 - Bad to Mediocre
51- 75 - Average to Good
75-100 - Excellent to completely Brilliant

Detention with Mr Blob

Name : BEATCHA
Producer : Romik
Category : Arcade
Price : £7.95

In the introductory text accompanying this game you are informed that you are a pupil at Qange Hill comprehensive school on "Sirius B". The object of the game is to avoid the teachers while collecting keys which will eventually allow you to escape via the main door. Forget all that - this is a Pac Man type maze game (the things chasing you resemble teachers about as much as my Auntie resembles an Ice Cream Sundae).

There are a large number of screens (we counted at least twenty), some of which contain extra nasties in addition to Mr Blob the Schoolmaster. You have 26 lives (yes, TWENTY SIX) which are incredibly easy to lose as you blunder hopelessly into fatal obstacles in your attempt to collect keys while keeping away from the Killer Blob. Movement in the game is very smooth although your man (a Smiley Badge) lacks the speed to make the game very exciting. The graphics are character-based and not particularly brilliant (with a few exceptions) but are very colourful. There is some sound which bleats pathetically at you when you die and is unfortunately impossible to turn off.

COMMENTS :

GT. This game lacks any sort of animation and is pretty tedious to play.

NB. School was never like this ! It's so B-O-R-I-N-G ! No wonder that little smiley idiot is trying to escape ! The graphics are cute in places but cannot hide the fact that there is nothing to the game.

ENTERPRISE PROGRAMS



BEATCHA

Game Content	50%
Playability	55%
Graphics	55%
Sound	25%
Value For Money	15%

Software Update

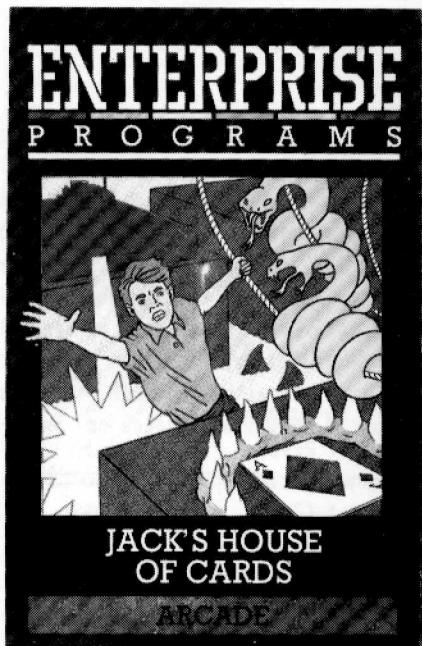
Aces low

Name : JACK'S HOUSE OF CARDS
Producer : Romik
Category : Arcade
Price : £7.95

Our hero, Jack, has the hots for the Queen of Hearts. In order to win her undying love he must explore the creepy House of Cards and collect the missing aces. Unfortunately for Jack, the House is inhabited by a host of monsters and is also full of rather unpleasant traps. Jack is controlled with the joystick for movement and will jump when the space bar is pressed. He must collect every card from each of the 16 screens, and has 5 lives with which to do so.

Basically, this is a platform game, with various deadly things that you must avoid while collecting the cards. Each screen is very colourful, although the choice of colours is poor as they are very garish ("Arrgh! No more...I'll tell all I know!"). The graphics are well done with care having been taken in using the Enterprise graphics (16 colour mode). Each screen has many cleverly animated creatures (all nasty of course) that bound, roll or trundle about and generally get in your way.

There are a few features of this game, however, that stop it from being very good indeed. One is Jack himself. Jack (hereafter known as the Purple Thingy) is small and undetailed with very little animation. This would be tolerable if it were not for the speed. Jack (hereafter known as the Violet Pimple) will never win the 100m (even against Eddie), and while he is jumping you could go and make a cup of tea. This is a great shame, the graphics and animation are very good, and this would otherwise go as one of the best games out for the Enterprise. Another rather poor feature occurs when Jack dies - there is no explosion



or proper effect to show Jack meeting his Maker. All that happens is that Jack is replaced by a very crude 'X' symbol - very realistic!

COMMENTS:

NB. A weird mixture, this. Some parts of the game show that time has been taken with the presentation and content (some of the sprites are really quite smart and puzzles on the screen are well constructed), while others are positively bogged (ie Jack)

GT. I played this on a 128 and it is still too slow. If this game could be modified to give Jack a bit more umph! (proton pills, spinach etc.) I could spend a lot longer playing it. Losing all my men on screen 2 and going back to screen 1 just depresses me ("Life - don't talk to me about life").

Game Content	75%
Playability	40%
Graphics	65%
Sound	35%
Value For Money	40%

Spocks speech impediment

Name : LISP
Producer : Intelligent Software
Category : Programming Language
CARTRIDGE
Price : £29.95

LISP is a programming language based on List Processing (from which it gets its name), and gives a completely different way of looking at and solving problems than, say, BASIC. Instructions (in the form of Functions) and data are given in the form of Lists. Lists are made up of further lists or individual items known as Atoms. IS-LISP is an interpretive LISP: that is, it evaluates each function as it is entered (somewhat different from IS-BASIC!). LISP is often used in the fields of 'Artificial Intelligence' and 'Expert Systems' although its speed is usually a drawback. Having said that, the IS-LISP is pleasantly fast compared with the (ahem!) IS-BASIC. In fact, an independent reviewer at the PCW Show found IS-LISP to be over twice as fast as the Lisp for the Sinclair QL!

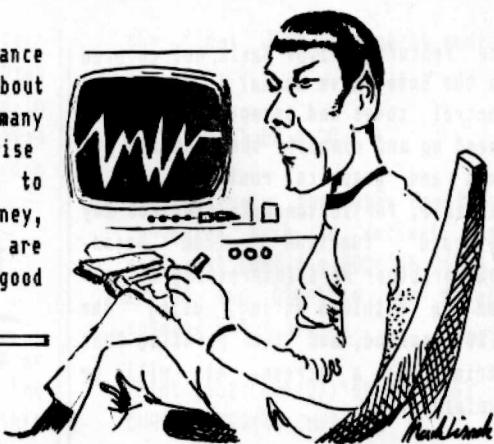
The IS-LISP cartridge replaces the BASIC cartridge in the side of the machine and therefore does not encroach on user RAM. The booklet that accompanies the cartridge details the various functions and how to use IS-LISP BUT it is NOT a beginners guide to the LISP language. For this there are several books on the market, two of which are recommended in the booklet. LISP has an appalling syntax (the way the functions are written - with lots of brackets) but is nevertheless still very popular. Other AI languages such as PROLOG are much more user-friendly and (I think) easier to understand but have so far been little used on micros. Perhaps this will change.

IS-LISP is not the sort of thing I can

Software Update

recommend to everyone, but if you have some books or programs and are interested in AI or Expert Systems then this could be a start. If you do buy it and could contribute LISP material to the magazine (articles, programs or tips) we will be more than happy to print them - LISP experts are few and far between!

Percentages relating to performance are not relevant when talking about the LISP cartridge. It contains many added functions to utilise Enterprise features and it would be hard to improve on. As for value for money, well if you have the money and are interested in LISP then this is a good buy.



Darth goes stereo

Name : 3D STAR STRIKE
Producer : Realtime Software
Category : Arcade
Price : £7.95

This is a fairly faithful reproduction of the "Star Wars" arcade game and has been available for most other micros for some while. Your mission is to penetrate the defences of some rather uncouth alien blighters and blow them all into oblivion. In order to do this you must first fight off waves of enemy fighters intent on spoiling your picnic outing. Then on to the surface of the enemy base blasting towers asunder while dodging a barrage of lethal blobby things. Then WHOOOSH! "Red Five, I'm going in!" into the trench of the alien base where you must dodge the crossing catwalks, shoot the enemy gun turrets and zap or avoid more incoming alien greeting cards with a distinctly unpleasant message. The final phase requires you to shoot out the two reactor pods at the end of the trench. This will put an end to the alien base in a violently satisfying way. KAPOOOOWEEE!

To control your ship you have the choice of either keyboard, onboard joystick or external joystick. The response is fairly quick as you zoom about blasting the baddies where it hurts. As you in turn get bashed back, your shields reduce in power until they finally give out - another hit

then and you're dead!

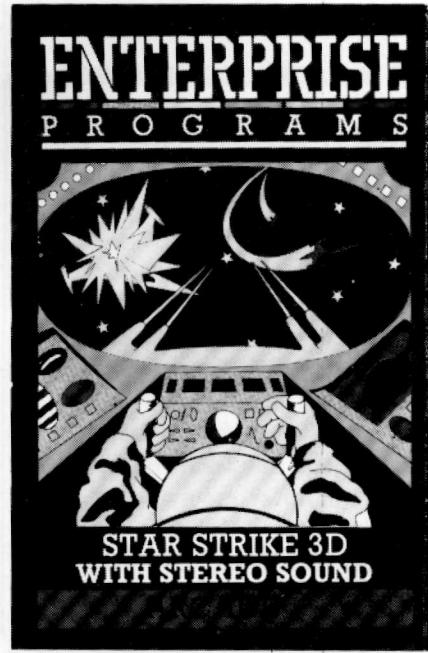
The addition of FULL STEREO SOUND brings an added dimension to an already excellent game. When you have completed the first level, things get slightly tougher and you get the chance to beat up the nasties all over again. For those miserable toads who are brilliant at lower levels, there is an option to start on a higher level.

COMMENTS:

NB. This is a total arcade trip, man! I plugged my Enterprise into the hi-fi and turned the volume up, killed the lights, got zapping and totally freaked !!! BRILLIANT !!!

GT. This game is good on a '64 But on a 128...WOW!!!! Accelerate into oblivion at hyperspeed. This should make an upgrade to 128k an absolute MUST.

Game Content	70%
Playability	85%
Graphics	75%
Sound	75%
Value For Money	80%



COMMENT

The standard of available software is definitely improving. There is a lot of new software on the horizon and quite a bit on our desk. Only timing prevents us from reviewing them in this issue (we do have to play them - yes, even the Eddies!). Games reviewed in the next issue will include a host of adventures from Level 9 (Oh no... more sleepless nights). Cyrus Chess is still undergoing rigorous testing by our team of expert reviewers (oh yerr..) and reports so far say that it is very good. Current score stands at Reviewers 1, Spectrum 0 and Cyrus 10. Also we have a preview of Hisoft's PASCAL compiler. Hey folks, no more slow BASIC !

Neil Blaber
Gary Thomson

Programming

One feature of I.S. Basic not covered in the Enterprise manual is the use of control codes and escape sequences to speed up and simplify the handling of text and graphics routines. It is possible, for instance, to simulate any keyboard function from basic. However, other more interesting effects can be within a string, using the HEX\$ command, and then printing that string to a screen. All will be explained.

Control codes

As you may know, single characters can be printed using the CHR\$ function when given the character's ASCII code.

```
PRINT CHR$(65)
```

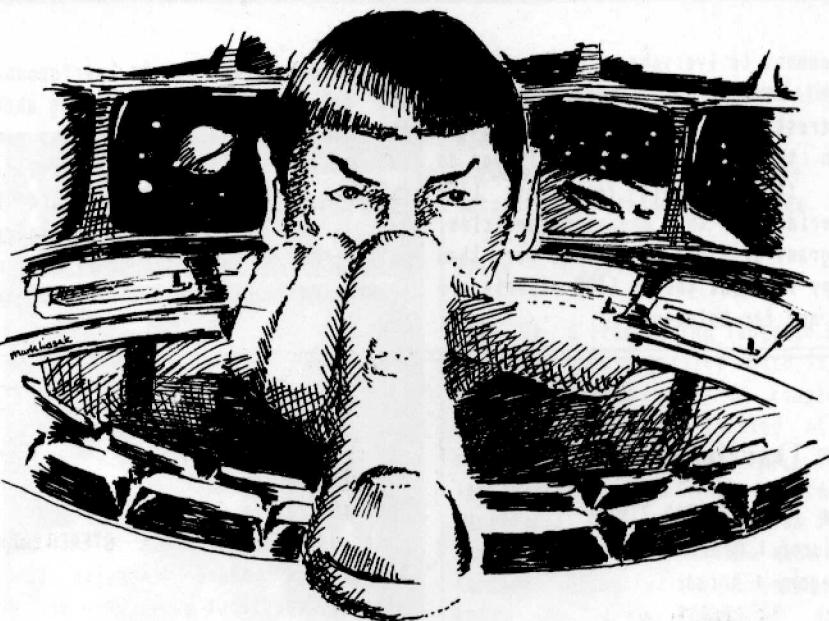
will print the letter "A". What many will not realise, though, is that HEX\$ can also fulfill this function for a list of values. HEX\$ takes a string of hexadecimal values separated by commas.

```
PRINT HEX$("41,42,43")
```

would print the letters "ABC". To achieve the same effect using CHR\$:

```
PRINT CHR$(65)CHR$(66)CHR$(67)
```

Now many of you are probably asking what advantage this has over printing the letters directly. The honest answer is, of course, that there is no real need to use CHR\$ to print ordinary letters and symbols, unless you are converting ASCII values to text. However, we are investigating the use of control codes, and unfortunately it is not possible to print these directly; hence the need for CHR\$ and HEX\$. For example there is no apparent way of putting a carriage return in the middle of a string, but if you know that the code for carriage return is 13 (0Dh - hex), then CHR\$ can be used to obtain the desired result.
eg.



Give your text & graphics handling an eXtra'warp'

```
PRINT "CONTROL"CHR$(13)"CODES"
```

will print CODES on the next line down from CONTROL. Alternatively a string, say CR\$, could be used to represent the carriage return, simply:

```
LET CR$=CHR$(13)
```

or a string could be set to represent the entire message:

```
LET M$="CONTROL"&CHR$(13)&"CODES"
```

Printing M\$ will now print:

CONTROL

CODES

In the above, HEX\$("0D") could be used instead of CHR\$(13), but obviously would be slightly longer.

The following effects can all be obtained using the CHR\$() format:

Clear screen--CHR\$(26)

Cursor home--CHR\$(30)

Line feed--CHR\$(10)

Carriage return--CHR\$(13)

Cursor left--CHR\$(8)

Cursor right--CHR\$(9)

Cursor up--CHR\$(11)

Cursor down--CHR\$(22)

The joystick and ERASE/DEL/INS keys can also be simulated, as follows:

Joystick left--CHR\$(184)

SHIFT/Joystick left--CHR\$(185)

CTRL/Joystick left--CHR\$(186)

ALT/Joystick left--CHR\$(187)

Joystick right--CHR\$(188)

SHIFT/ " " --CHR\$(189)

CTRL/ " " --CHR\$(190)

ALT/ " " --CHR\$(191)

Joystick up--CHR\$(176)

SHIFT/ " " --CHR\$(177)

CTRL/ " " --CHR\$(178)

ALT/ " " --CHR\$(179)

Joystick down--CHR\$(180)

SHIFT/ " " --CHR\$(181)

CTRL/ " " --CHR\$(182)

ALT/ " " --CHR\$(183)

DEL to ALT/DEL--CHR\$(160) to
CHR\$(163)

ERASE to ALT/ERASE--CHR\$(164) to
CHR\$(167)

INS to ALT/INS--CHR\$(168) to
CHR\$(171)

Programming

While on the subject of simple control codes, the functions of the built-in word processor can be accessed by printing the control codes for the various function keys; these are 240 to 247 for CTRL/FUNCTION 1 to CTRL/FUNCTION 8, and 248 to 255 for ALT/FUNCTION 1 to ALT/FUNCTION 8. So, for example, to justify a piece of text, put CHR\$(248) after the closing quotes.

Escape sequences

So far we have only used single value control codes to obtain relatively simple effects. To travel further we need to start using Escape Sequences, that is, a series of values preceded by the escape character, CHR\$(27) or HEX\$("1B").

When a video channel receives the escape code, it will interpret the next character it receives as the beginning of an escape sequence. This sequence may be any number of characters long, from 1 to 11, depending on what it does. There is no need to terminate an escape sequence with a special character; the video driver—the piece of the Enterprise which handles the text and graphics—will know how many characters to expect, and will start printing characters normally again, once it reaches the end of the escape sequence.

There are a large number of escape sequences so I will go through each in turn, explaining their uses as I go.

CURSOR/BEAM MOVEMENT

esc= CHR\$(27)=" or HEX\$("1B,3D")

Followed by two 8 bit values sets the cursor position. The values are given as Y position plus 32, followed by X position plus 32. If either value is 32, i.e. X or Y equals 0, then that co-ordinate is left unaltered. This allows the column to be set but the row to be left as it was, or vice

versa. In attributes mode, the text cursor is moved, but the beam position is not affected. In graphics mode, the beam is moved to the appropriate character position.

Example:

```
PRINT HEX$("1B,3D,2A,25");
```

positions cursor at column 5 of row 10. Note the semicolon at the end of the command, this suppresses the automatic carriage return.

esc? CHR\$(27)"?" or HEX\$("1B,3F")

If this escape sequence is sent to a video page then the next two LOOK commands directed at that page will return the row and column at which the cursor is positioned, e.g.

```
PRINT F102:HEX$("1B,3F")
```

```
LOOK F102:Y
```

```
LOOK F102:X
```

will return the cursor's row and column positions to Y and X respectively. This sequence is only supported in text or attribute modes—a graphics channel doesn't have a cursor position.

escA CHR\$(27)"A" or HEX\$("1B,41")

Followed by four 8 bit values of the form <xx><yy> positions the beam at co-ordinates (xx,yy); xx and yy are both pairs of 8 bit values, specified as least significant byte first, e.g:

If we want to move the beam position to 1200,300 we need to break down 1200 and 300 into pairs of 8 bit values. The easiest way to do this is to convert each in turn to a hex value, so 1200 is 04B0h and 300 is 012Ch—the "h" indicates that the value is hexadecimal, not decimal. Then simply swap the bytes around. Thus

the final HEX\$ statement would be:

```
HEX$("1B,41,B0,4,2C,1")
```

Alternatively the bytes could be converted back to decimal and used with CHR\$, i.e.: B0h=176, 04h=4, 2Ch=44 and 01h=1; so the final command would be:

```
PRINT F101:CHR$(27)"A"CHR$(176)  
CHR$(4)CHR$(44)CHR$(1);
```

Note again that the semicolon must be used to suppress the automatic carriage return. As you can see, when using an escape sequence of any length, it is far easier to use a single HEX\$ than a series of CHR\$'s. This sequence will not work with text channels.

escR CHR\$(27)"R" or HEX\$("1B,52")

This sequence takes the same form as escA, but instead of placing the beam at the co-ordinates given, it moves the beam by a relative amount: xx,yy. This allows the user to have, for instance, a back space command on a graphics screen by using:

```
PRINT F101:HEX$("1B,52,E0,FF,0,0")
```

This simply moves the cursor position back by 32, i.e. one character space. N.B. If anyone is still having problems with least & most significant bytes, there is a short program which will be listed later that will do all the hard work for you. Again, this command will not work with text channels.

NOTE: It is in relative beam movement that escape sequences produce the greatest saving in time. In fact they can speed things up by up to 80%!

esc@ CHR\$(27)"@" or HEX\$("1B,40")

Works in a similar manner to esc?, but with graphics or attribute

Programming

screens only. the next four LOOK commands after this sequence will produce x-LSB,x-MSB,y-LSB,y-MSB respectively.

Cursor/beam representation

escC CHR\$(27)":" or HEX\$("1B,2E")

Followed by a single value <n>, will change the cursor to the character with ASCII code<n>, e.g:

PRINT £102:HEX\$("1B,2E,5F")

will set the cursor to a flashing under-line. This sequence has a different effect with non-text channels. (see under DRAWING).

escM CHR\$(27)"M" or HEX\$("1B,4D")

Followed by a single value <n>, will set the cursor colour to palette colour <n>. (As above, see under DRAWING for use with non-text screens.)

escO CHR\$(27)"0" or HEX\$("1B,4F")

Stops the cursor from being displayed. This doesn't seem to work with the default text channel-f102, something which is probably caused by the editor. No I don't mean Mark - The editor is the software which is used to control text output to f102 and controls clever things like word-wrap and text justification; it's also the thing that stops you from printing to the full 40 columns of f102. This only works with text screens.

esco CHR\$(27)"o" or HEX\$("1B,6F")

The opposite of escO, i.e. allows the display of the cursor. Yes, you guessed it; it only works with text screens.

escS CHR\$(27)"S" or HEX\$("1B,53")

Sets the beam on.

escS CHR\$(27)"s" or HEX\$("1B,73")

Sets the beam off. The above two commands will be accepted by a text channel, but will have a different effect; see under SCROLLING

Colours

escC CHR\$(27)"C" or HEX\$("1B,43")

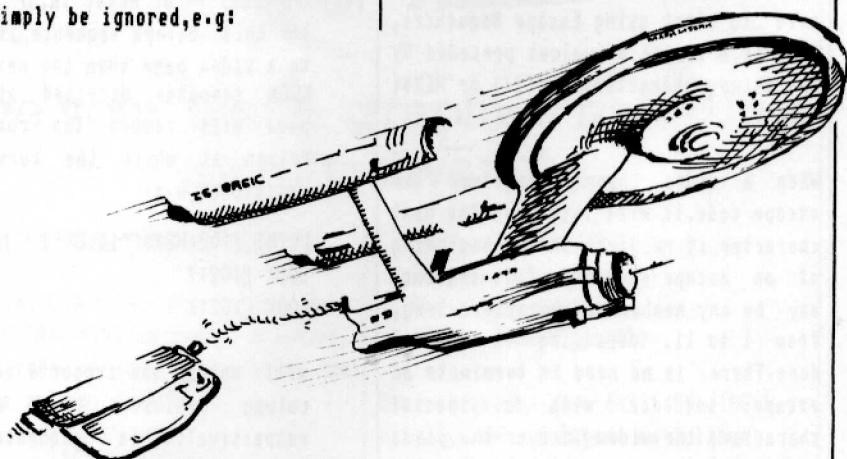
Followed by eight bytes,<c1> to <c8>, will set the palette to the colours corresponding to <c1> to <c8>. There must always be eight bytes following escC, even if there are only two colours in the palette. The spare bytes will simply be ignored, e.g:

PRINT £101:HEX\$("1B,49,0")

would set the Ink to palette colour 0 in 16 colour mode-which could be anything set by the user-but would set the Ink colour to black-i.e.colour 0-in 256 colour mode.

escP CHR\$(27)"P" or HEX\$("1B,50")

Followed by a single byte <n>, sets the Paper colour to palette colour <n>. (See above for notes on 256 colour mode.)



Scrolling

escS CHR\$(27)"S" or HEX\$("1B,53")

Has the same effect as the basic command:- SET SCROLL ON

escS CHR\$(27)"s" or HEX\$("1B,73")

Has the same effect as the basic command:- SET SCROLL OFF . As in basic these two commands only work with text screens. (For the effect of these sequences on graphics screens, see under CURSOR/BEAM REPRESENTATION.)

escC CHR\$(27)"c" or HEX\$("1B,63")

Followed by two bytes <n><c>, will set colour <n> in palette to <c>; <n> should be between 0 and 7.

escI CHR\$(27)"I" or HEX\$("1B,49")

Followed by a single byte <n>, sets Ink to palette colour number <n>. In 256 colour mode,<n> represents the colour directly, as the palette is not used, e.g:

escU CHR\$(27)"U" or HEX\$("1B,55")

Followed by two bytes <n><m>, will have the same effect as the basic command:-SET SCROLL UP n,m;i.e. it will scroll the lines between

■ Programming

n-32 and m-32 up one line.e.g:

PRINT £102:HEX\$("1B,55,2A,2F")

will scroll all the lines between row 10 and 15 up one line, the original line 10 will be lost and line 15 will become blank. As with the basic command, this sequence will only be accepted by a text channel.

escD CHR\$(27)"D" or HEX\$("1B,44")

Works in the same manner as escU, except that the block of lines will be scrolled down one line. (Both of these basic commands are badly explained in the manual -what do you mean everything is?- but a better description can be found in my answer to Howard Ingleby's letter in issue 1.)

Graphics

esc. CHR\$(27)." or HEX\$("1B,2E")

Followed by a single byte will have the same effect as the basic command:-SET LINE STYLE. Will not work with a text screen, something to do with being unable to draw lines on text screens. As a matter of fact, none of the commands in this section will work with text screens.

escM CHR\$(27)"M" or HEX\$("1B,4D")

Followed by a single byte will

have the same effect as the basic command:-SET LINE MODE.

escF CHR\$(27)"F" or HEX\$("1B,46")

Fills the screen, starting from the current beam position and working out until it reaches a boundary of ink colour different from that of the current beam position.

escE CHR\$(27)"E" or HEX\$("1B,45")

Followed by 4 bytes <xx><yy> draws an ellipse with its centre at the current beam position, horizontal radius <xx> and vertical radius <yy>-<xx> & <yy> are defined as in beam movement, i.e. two bytes, least significant byte first; e.g:

PRINT £101:HEX\$("1B,45,2C,1,2C,1")

will produce an ellipse with verticle and horizontal radii 300, i.e. a circle.

unaffected. Obviously this command will only work in attribute mode.

escK CHR\$(27)"K" or HEX\$("1B,4B")

Followed by 10 bytes <n><r1>-<r9> defines character number <n> row by row, with row 1 being equal to <r1>, row 2 equal to <r2>, through to row 9 which is equal to <r9>.

Dave Race concludes his examination into the use of control codes and escape sequences in our next issue, (if you can bear the wait!) with hints on their everyday usage, and examples in the form of short demonstration programs. When you experiment with them you'll soon realise how important they are and the speed increases that can be made!

Miscellaneous

esca CHR\$(27)"a" or HEX\$("1B,41")

Followed by a single byte acts as the basic command:-SET ATTRIBUTES e.g:

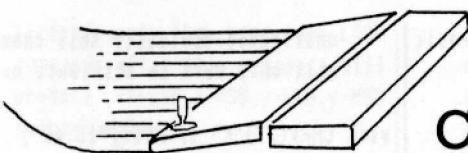
PRINT £101:(1B,41,80")

would cause all following print to leave the background colour

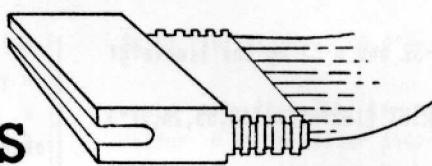
Once again, if you have had any difficulty at all in understanding any article in this magazine, please do not hesitate to write to us.

END OF PART ONE

Outside Connections



MONITOR CONVERSIONS



Those of you who read "outside connections" in issue 1 will know that a lot of monitors are not capable of showing all of the Enterprise's 256 colours. This is because they sport the wrong inputs -digital as opposed to linear.

This does, of course, limit the range of monitors to choose from. However, a selection of monitors can be converted from digital to linear without a great deal of trouble, or expense. The models converted in this article are Microvitec models 1431, 1441, 1451 and the Hitachi CPT 1444 TV receiver.

WARNING: lethal voltages are present inside the monitors: only tackle the job if you are familiar with this type of operation or else seek help from a fully qualified person.

INSTRUCTIONS.

1. Disconnect monitor from mains. If the monitor has been used recently some components may contain a high voltage charge; leave disconnected for at least two hours before commencing work.
 2. There are two cases in the Microvitec range; steel and plastic. The steel variants just require the back panel removing, but on the plastic cased models the whole outer shell needs to come off. To do so place the monitor face down on a towel or piece of foam. Next remove the six securing screws, the case can now be removed.
 3. Locate the '10 pin in line' connector (pl 10) on the main circuit board (see fig.1). The links should be configured for TTL levels.
 4. Remove all wire links and replace them as shown in fig 2a.
 5. Replace case / back panel.
 6. To connect monitor to computer obtain the Enterprise video cable 900-04 or make up a cable as in 'outside connections' (issue 1).

pin	Input connections	900-04
1	RED input	red wire
2	GREEN input	GREEN wire
3	BLUE input	BLUE wire
4	COMPOSITE sync	BROWN wire
5	OV	BLACK wire
6	NOT connected	

FIG.1 

pin	Input connections	
1	RED input	red wire
2	GREEN input	GREEN wire
3	BLUE input	BLUE wire
4	COMPOSITE sync	BROWN wire
5	OV	BLACK wire
6	NOT connected	

FIG. 1

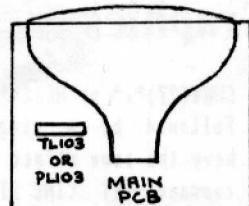


FIG. 2

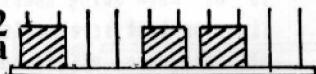
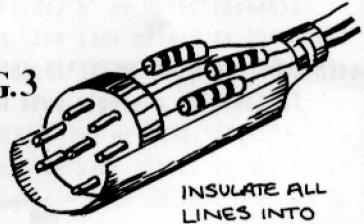


FIG. 3



To connect an Enterprise to an Hitachi
1444 TV receiver you will require
these parts.

QUANTITY

- 1 Monitor cable 900-04 or home made cable.
 - 1 7 pin DIN plug.
 - 3 270 ohm 1/8 WATT resistors.
 - 2 100 ohm 1/8 WATT resistors.

Some insulating tape.

Connections

Input connections	900- 04	Resist	Din plug
RED input	RED wire	270	1
GREEN input	GREEN wire	270	2
BLUE input	BLUE wire	270	3
COMPOSITE sync	BROWN wire	none	4
OV	BLACK wire	none	5
LEFT audio	ORANGE wire	100)	6
RIGHT audio	WHITE wire	100)	6

To achieve a good looking finish, try and solder the resistors in between the pins and the wires inside the plug case. Look at fig.3 to see the best way to position and insulate these connections.

Warning all wires not used MUST BE
INSULATED.

TIM BOX

Many thanks to Steve Groves of Enterprise Computers for providing the information used in this article.

Neither Private Enterprise nor Enterprise Computers can accept liability for any damage to computer or persons caused by following this article.

Softbacks

SUPER PROGRAMMER

By ALAN M.GORDON

Published by SIGMA PRESS

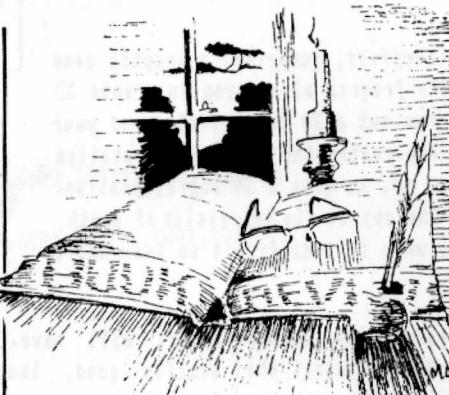
£6.95

Despite the blurb on the back cover and the Enterprise logo on the front of the book, this is not an advanced program guide, nor does it seem to be intended as an introductory programming handbook. What this book attempts to do is to teach good programming techniques to anyone using ANSI basic—that's us.

As I said, the cover bears an "approved by Enterprise" stamp, and it is implied that it will prove invaluable to Enterprise owners, (the author even gives a mention to some guy, called Steve Groves at Enterprise). Whilst I cannot say that it is essential reading, the book will teach a structured and logical approach to programming, and does go over quite a bit of ground which is glossed over in the Enterprise manual.

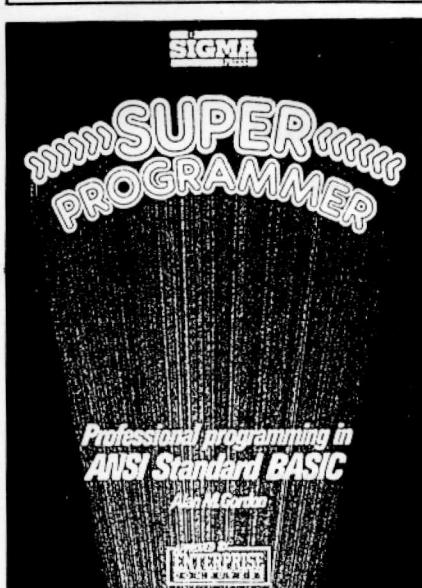
To make use of the book, you will need to have some grasp of the basics of the language, pun intended, although the examples do start at a fairly low level. On the subject of examples, the book is fairly well packed with listings, all of which "were developed and tested" on the Enterprise and "will all run if typed into the machine exactly as given". Don't you believe it. It seems even super programmers have to contend with typos.

Super Programmer starts off with a couple of chapters on program design, with the usual flow charts replaced with even less understandable thought bubbles. It then goes through procedures, GOTOS and loops of various types. The impression given in the chapter on GOTOS and GOSUBs is that they are only really mentioned for the benefit of people using "minimal" basic—that's not us. Incidentally there are usually two listings for all the



longer programs, one using I.S.BASIC, the other in "minimal" basic. This helps to fill the 136 pages, as does chapter 13, unlucky for some, which gathers together, i.e. repeats, examples given elsewhere in the book.

There are also chapters on arrays, sorting, error checking and recursion, amongst others. There is even a chapter devoted to using a printer. All are well thought out, if a little short on the nitty-gritty. Why, for instance, is it unwise to exit loops by using GOTO? The examples are interesting and informative (it is nice to see the vastly more powerful shell-sort given alongside its poorer cousin bubble) and all the way through the ideals of good, structured programming are impressed upon you.

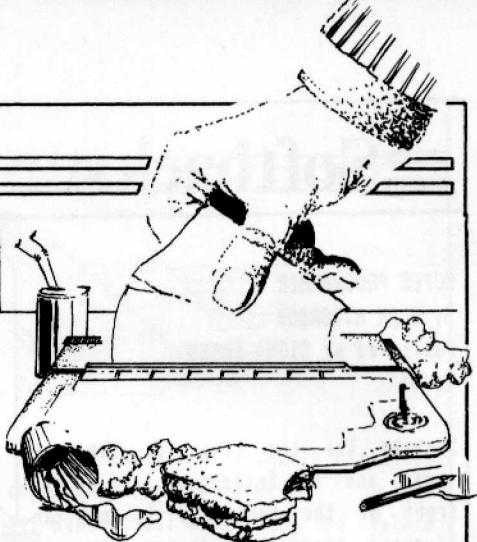


As you may already have realized, the only things that seem to be missing are sound and graphics. It could be said that there is no need to mention these two areas as they are simply commands and functions which are used in a program just as mathematical functions would be, and that the point is to ensure the program is well designed. I think, however, that the main reason is that the book is written by someone used to writing for business and so the examples and chapters cover what would normally be taught to business users; hence the examples on data validation are on checking dates and house numbers, the example program in the chapter on program testing is a codex, something which, while it may be very interesting, has no real value to the home user. I'm not saying that business orientated examples are a bad thing—they are after all just examples—it is just a pity that two chapters could not be given over to the use of graphics and sound for the benefit of Enterprise users.

In conclusion, I would say that this book will prove very useful to anyone who programs at home (and with the software around at the moment, who doesn't?) and who wants to develop a good programming technique. As such, it should be especially useful to anyone who has moved up from a machine with an unstructured basic in breaking them out of old habits. At the price, it seems good value and, despite the minor quibbles already mentioned, I feel I must recommend it (it is the first book even vaguely aimed at the Enterprise user). If, however, you are just looking for a book to show you how to program space invaders on the Enterprise, or produce symphonies to put Mahler to shame, then I'm afraid this probably isn't the book for you.

DAVE
RACE

Home Produce



This issue's program takes the form of, (surprise, surprise) a graphic demo that thinks it's a graphics Utility. The Program allows you to create 3D wire frame symmetrical images. Just draw out a 2D cross section of your shape using the cursor. The Program duplicates the shape in a rotation about the central line, joining them up, to give a 3D representation. Varying shades of red are used to give the object the impression of depth, very useful with this sort of program when it's difficult to know where you are.

To create a shape, use the joystick to move the cursor around the desired shape, pressing SPACE BAR to select the points of the shape as you go, (using SHIFT with the joystick moves the cursor dot 10 pixels). When you have finished, Press the ENTER key. You will now be asked for the number of sections. This is the number of faces the 3D object will have. Type in a number from 4 to 50 (16 is usually good, though try experimenting) and press ENTER. When the picture is finished, you will be asked: Draw, New or Exit. New allows you to go back to the start and redraw a new shape. Draw lets you redraw the same shape but with a different number of faces. Exit stops the program.

```
110 PROGRAM SHADE FRAME
150 !
160 ! Set up the graphics channel and the colour palette
170 GRAPHICS 4
180 SET PALETTE 0,RGB(1,0,0),RGB(5/7,0,0),RGB(3/7,0,0)
190 !
200 !
210 ! Declare the arrays and variables
220 NUMERIC X(25,50),Y(25,50),Z(25,50)
230 NUMERIC CURX,CURY,OLDX,OLDY,DY,DY
240 NUMERIC POINT
250 STRING KEY$
260 NUMERIC KEY
270 !
280 !
290 ! Main Program
300 DO
310 LET POINT=0
320 CALL GETPOINTS
330 DO
340 CALL DRAWPIC
350 DO
360 CLEAR TEXT
370 PRINT AT 1,0;" Draw again, New shape or Exit"
380 CALL GETKEY(KEY,KEY$)
390 LOOP UNTIL KEY$="D" OR KEY$="N" OR KEY$="E"
400 LOOP UNTIL KEY$<>"D"
410 LOOP UNTIL KEY$="E"
420 END
430 !
440 !
450 ! GETPOINTS gets the points for the 2 dimensional shape.
460 DEF GETPOINTS
470 CLEAR TEXT
480 CLEAR GRAPHICS
490 PRINT "Move the dot using the Joystick (use SHIFT to move 10 pixels at a time)"
500 PRINT "Press the Spacebar to set point"
510 LET CURX=640
520 LET CURY=320
```

Home Produce

```
530 PLOT 640,40;640,640
540 SET BEAM OFF
550 SET LINE MODE 3
560 DO
570 PLOT CURX-8,CURY;CURX+8,CURY,CURX,CURY+8;CURX,CURY-8
580 CALL GETKEY(KEY,KEY$)
590 PLOT CURX-8,CURY;CURX+8,CURY,CURX,CURY+8;CURX,CURY-8
600 SELECT KEY
610 CASE 32
620 CALL SETPOINT
630 CASE 180
640 LET CURY=CURY-4
650 CASE 181
660 LET CURY=CURY-40
670 CASE 176
680 LET CURY=CURY+4
690 CASE 177
700 LET CURY=CURY+40
710 CASE 188
720 LET CURX=CURX+4
730 CASE 189
740 LET CURX=CURX+40
750 CASE 184
760 LET CURX=CURX-4
770 CASE 185
780 LET CURX=CURX-40
790 CASE ELSE
800 END SELECT
810 IF CURX>1200 THEN LET CURX=1200
820 IF CURY>640 THEN LET CURY=640
830 IF CURX<640 THEN LET CURX=640
840 IF CURY<40 THEN LET CURY=40
850 LOOP UNTIL KEY=13 OR POINT=25
860 END DEF
870 !
880 !
890 ! GETKEY gets a key from the keyboard
900 DEF GETKEY(REF K1,REF K1$)
910 DO
920 LET K1$=INKEY$
930 LOOP UNTIL K1$<> ""
940 LET K1$=UCASE$(K1$)
950 LET K1=ORD(K1$)
960 END DEF
970 !
980 !
990 ! SETPOINT sets a point on the 2D shape and draws a line to it.
1000 DEF SETPOINT
1010 LET POINT=POINT+1
1020 LET X(POINT,1)=CURX-640
1030 LET Y(POINT,1)=CURY
1040 LET Z(POINT,1)=0
1050 SET LINE MODE 0
1060 IF POINT>1 THEN
1070 PLOT OLDX,OLDY;CURX,CURY
1080 ELSE
1090 PLOT CURX,CURY
```

Home Produce

```
1100 END IF
1110 SET LINE MODE 3
1120 LET OLDX=CURX:LET OLDY=CURY
1130 END DEF
1140 !
1150 !
1160 ! DRAWPIC calculates each 2D section and joins it to the previous
1170 ! section.
1180 DEF DRAWPIC
1190 DO
1200   CLEAR TEXT
1210   INPUT AT 1,0,PROMPT "How many sections? (4-50) ":"FACES
1220 LOOP UNTIL FACES>3 AND FACES<51
1230 CLEAR TEXT
1240 PRINT " Calculating - Ho Humm..."
1250 LET S=SIN(PI/(FACES/2)):LET C=COS(PI/(FACES/2))
1260 FOR I=2 TO FACES
1270   FOR J=1 TO POINT
1280     LET X(J,I)=X(J,I-1)*C-Z(J,I-1)*S
1290     LET Y(J,I)=Y(J,I-1):LET Z(J,I)=Z(J,I-1)*C+X(J,I-1)*S
1300   NEXT
1310 NEXT
1320 ! Draw sections with lines joining them
1330 CLEAR GRAPHICS
1340 SET LINE MODE 0
1350 LET T1=FACES/2
1360 LET T2=FACES/10+T1
1370 LET T3=FACES-FACES/10
1380 FOR I=FACES-1 TO 1 STEP-1
1390   IF I<T1 THEN
1400     SET INK 1
1410   ELSE IF I<T2 OR I>=T3 THEN
1420     SET INK 2
1430   ELSE
1440     SET INK 3
1450 END IF
1460 FOR J=1 TO POINT-1
1470   LET DX=640+X(J,I):LET DY=40+Y(J,I)-.5*Z(J,I)
1480   PLOT DX,DY;
1490   LET DX=DX+X(J,I+1)-X(J,I):LET DY=DY+(Y(J,I+1)-.5*Z(J,I+1))-(Y(J,I)-.5*Z(J,I))
1500   PLOT DX,DY;
1510   LET DX=DX+X(J+1,I+1)-X(J,I+1):LET DY=DY+(Y(J+1,I+1)-.5*Z(J+1,I+1))-(Y(J,I+1)-.5*Z(J,I+1))
1520   PLOT DX,DY
1530 NEXT
1540 NEXT
1550 ! Connect last section with first
1560 FOR I=1 TO POINT-1
1570   LET DX=640+X(I,FACES):LET DY=40+Y(I,FACES)-.5*Z(I,FACES)
1580   PLOT DX,DY;
1590   LET DX=DX+X(I,1)-X(I,FACES):LET DY=DY+(Y(I,1)-.5*Z(I,1))-(Y(I,FACES)-.5*Z(I,FACES))
1600   PLOT DX,DY;
1610   LET DX=DX+X(I+1,1)-X(I,1):LET DY=DY+(Y(I+1,1)-.5*Z(I+1,1))-Y(I,1)-.5*Z(I,1)
1620   PLOT DX,DY
1630 NEXT
1640 END DEF
```

REMEMBER, The I.E.U.G need your 'Home Produce'.

User Group Activities

Discounts

We are investigating the possibility of offering cut-price peripherals to User Group members. This will be done by approaching retailers with bulk orders. The items offered will have been fully tested and vetted by the User Group to prove their quality and value. This bulk ordering system may also be possible for software.

Compilation tape

In the next issue we will be offering (at a bargain price) copies of "IEUG's Greatest Hits Volume 1". This is a compilation software tape featuring all programs published in Private Enterprise Magazine, together with other programs submitted which were too long to print. Also on the tape will be the digitised pictures demonstrated at the PCW Show, together with a couple of 'surprise offerings'.

First I.E.U.G meeting

Details of the 1985 User Group Meeting (to be held in December at a venue in the London area yet to be arranged) will be announced in Issue 3.

I.E.U.G A.C.C.

IEUG is now affiliated to the Association of Computer Clubs. This entitles us to:

- (i) Cover under the ACC's block public liability insurance policy. The policy protects us from any claim made by the public arising out of club meetings, demonstrations and club social functions following an accident causing either personal injury or property damage and for which the User Group is legally liable because of negligence on the part of a club official or member.
- (ii) A low cost insurance scheme for equipment at club meetings. The policy covers loss or damage to all or part of User Group and members' equipment (including tapes or disks) from any accidental cause both on the premises and in transit between locations.
- (iii) The Clubspot 810 Prestel database, including a chance to edit material there.
- (iv) An expanding network of regional contacts.

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 - Programming features for all machines. Learn BASIC and machine code from our How to.... series
- Programs for all the popular machines each week
 - Lots of letters and hints and tips

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from a weekly magazine

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